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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,975	12/27/2000	Robert M. L. Baker, Jr.	40702/RJW/T465	1753

23363 7590 09/23/2002

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EXAMINER

MULLINS, BURTON S

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,975

Applicant(s)

BAKER, JR., ROBERT M. L.

Examiner

Burton S. Mullins

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-98, 103-109 and 111 is/are pending in the application.
- 4a) Of the above claim(s) 99-102 and 110 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-98, 103-109 and 111 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 6 7. 6) ☐ Other: _____

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of the restriction in Paper No. 13 is acknowledged.

The traverse is not persuasive since applicant provides no grounds for the traverse. The requirement is still deemed proper and is therefore made FINAL.

2. Claims 99-102 and 110 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction requirement in Paper No. 14.

File History

3. Per applicant's request for identification of the papers in the application, the examiner provides the following index:

<u>Paper No. & Title</u>	<u>Date</u>	<u>Summary</u>
1. Application papers	12-27-00	Claims 1-102
2. Fee Authorization	12-27-00	
3. IDS	4-2-01	
4. Preliminary Amendment A (entered)	1-10-02	Adds new claims 103-107
5. Restriction	2-28-02	Claims 1-107 restricted
6. IDS	2-12-02	
7. Supp.IDS	3-18-02	
8. Substitute Specification (not entered)	4-24-01	
9. Supp. Pre-Amendment B (entered in part)*	3-11-02	Adds new claims 108-110

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10.	Election	4-3-02	Group I elected
11.	Supp. Pre-Amendment C (entered)	4-10-02	Adds new claim 111
12.	Supplemental Amendment D (entered)	4-15-02	Amends spec.
13.	Restriction	5-30-02	Claims 1-111 restricted
14.	Election	7-10-02	Group I elected
15.	Change of Address	7-24-02	

* Regarding Paper. No.9, amendments made therein to the specification have not been entered since the substitute specification was not entered and since applicant cancelled the substitute specification in Paper No.14.

Response to Amendment

4. Regarding applicant's request in Paper No.14 regarding proposed changes to the specification and possible new matter, the examiner agrees with applicant's conclusions that the "electromagnetic field" and "target mass energizable elements..." material is supported by the specification as originally filed. Accordingly, these changes can be made to the specification.

Claim Objections

5. Claim 1 is objected to because of the following informalities: The comma at the end of the claim should be a period. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-15, 46-53, 55, 57, 61-63, 70-71, 74-78, 80, 96 and 109 are rejected under 35

U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 1 and 15, it is not clear what the “nuclear reactions” are. Is the “nuclear reaction” the jerk itself or the cause of the jerk? Page 1, lines 25-35 suggest the latter (“...some of the nuclei are triggered by the impacting particles to produce a nuclear reaction thereby generating an impulse, that is, undergo a reactive jerk or harmonic oscillation”) but there is no discussion of exactly what this “nuclear reaction” is. In the examiner’s understanding, an “energizing” beam impacts a target which produces the “nuclear reaction” which then generates gravity waves. Regarding claim 46, it is not clear how the specification enables a “sequence” of collector element interrogations “according to an expected gravitational wave frequency in order to be a tuned gravitational wave receiver” (claim 46). How are the collectors “interrogated”? What is involved with this interrogation and how is the “sequence” related to expected wave frequency? How is the wave phase “determined” and “locked on” by the computer? The specification p.16, lines 8-12 describes an “interrogation” process generally, but not specific enough for one of ordinary skill to make and use applicant’s invention. Similarly, regarding claim 96, the specification states that: “[t]he particle beam bunches are

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modulated by a particle-emission and/or chopper-control computer to impart information by modulating the generated GW" (p.15, lines 13-16). It would not be clear from this description how one of ordinary skill would "impart" information to the gravity waves since it is not clear what type of control the computer is performing; neither is there teaching of how a de-modulator would extract information from the GW. Would this be done through computer control as well?

8. Claims 1-14, 16-88, 97-98 and 103-111 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, recitation "such that the particles move in approximately the same direction" is indefinite. Are these "particles" the "submicroscopic particles" targeting the target nuclei? If so, what is "the same direction" they move in? Alternatively, are the "particles" those produced by the "nuclear reaction" which move in "same direction" as the submicroscopic particles?

In claim 16, recitation "a computer controlled logic system operatively connected to the energizing elements to control the action of the energizing elements" is vague and indefinite. What are the "actions" of the elements which are controlled?

In claim 46, recitation "collector elements...interrogated in sequence according to an expected gravitational wave frequency in order to be a tuned gravitational wave receiver" is vague and indefinite. What is the "interrogation"? What is the structural relation between the collector elements, the detector and the tuned receiver?

Claim 111 appears to be a duplicate of claim 108.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 15-88, 96-98, 103-109 and 111 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Independent claims 15-16, 46 and 96 do not recite critical elements of the invention without which operation would be impossible. Claim 15 does not recite a computer controlled logic system or Individual Independently Programmable Coil System (IIPCS) necessary for generation of the third-time derivative of the moment of inertia or "jerk" of the mass of target nuclei, as disclosed in the specification at, e.g., p.10, lines 20-25, pp.20-22 and claim 1. Claim 16 does not recite the critical feature of generation of the third time-derivative of the moment of inertia or "jerk." Claims 46 and 96 do not recite a computer controlled logic system or "Individual Independently Programmable Coil System" (IIPCS) necessary for interrogation of the collector elements to receive GW at a particular phase and frequency determined by the third-derivative or "jerk," as disclosed in the specification at, e.g., p.11, lines 8-12 and p.13, lines 15-21.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claim 15 as best understood is rejected under 35 U.S.C. 102(b) as being anticipated by Kraus (*Will Gravity-Wave Communication Be Possible?*, IEEE Antennas & Propagation Magazine, Vol.33, No.4, August 1991) or, alternatively, Weber (1960), "Detection and Generation of Gravitational Waves", *Physics Review*, V.117, No.1, pp.306-313.

Kraus teaches a gravitational wave generator in which an electro-magnetic pulse is introduced into a toroidal cavity at its resonant frequency to produce a very small phase shift which distorts the medium in the toroid, i.e., the pulse causes "physical motion of submicroscopic particles" (p.22; Fig.4).

Weber teaches a method for generating GW in the laboratory by electrically inducing stresses in crystals, e.g. piezo-electric crystals comprising the "plural target nuclei" (p.312). The "sub-microscopic particles" would be the piezo nuclei in the crystal. The "nuclear reaction" would be the one-dimensional acoustic resonance of the crystal which sets up one-dimensional compressional GW of about 1 meter (for a crystal with dimensions about 50 cm to a side). The resonating crystal comprises the claimed "physical motion."


Allowable Subject Matter

13. Claim 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101 and 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The prior art does not teach the claimed GW generator or communications device including a computer controlled logic system which energizes the energizable elements to produce a third time derivative of the motion of the energizable elements or a "jerk."

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
September 19, 2002